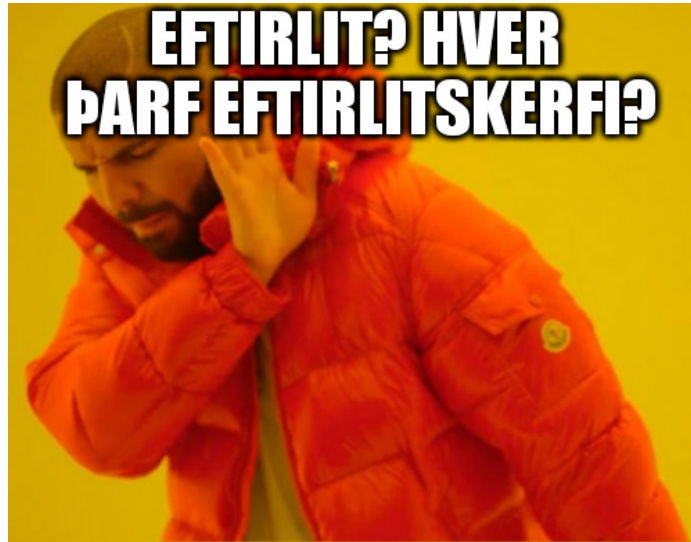


FT fyrirlestur:

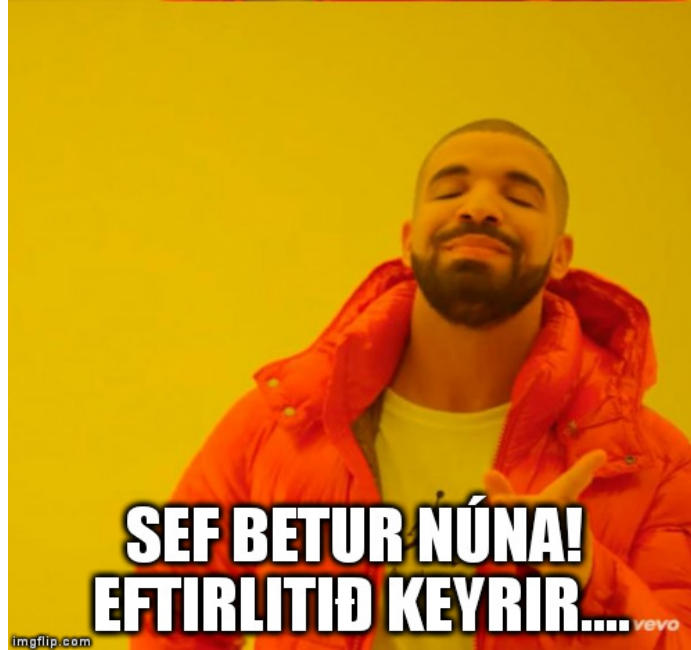
Neteftirlit /
eftirlitskerfi

Einar Indriðason
einar.indrida@gmail.com

**EFTIRLIT? HVER
ÞARF EFTIRLITSKERFI?**



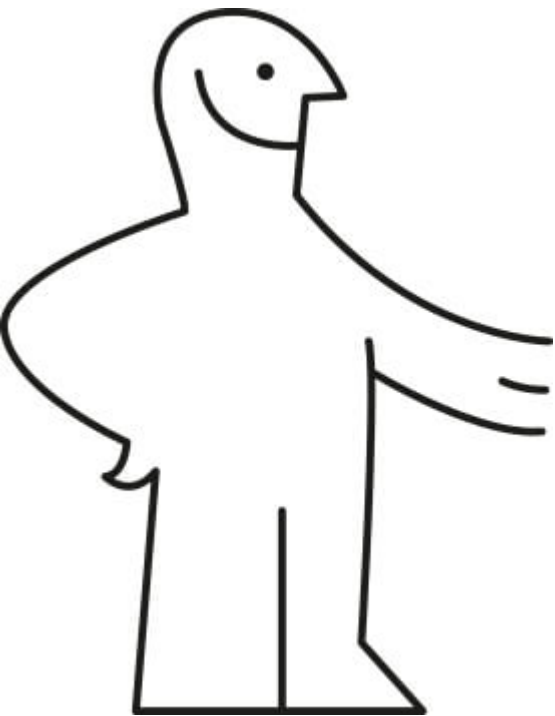
**SEF BETUR NÚNA!
EFTIRLITIÐ KEYRIR....**



(dæmi um skort á eftirliti)



(Hvað er að gerast?)



Söllumannsraeðan...

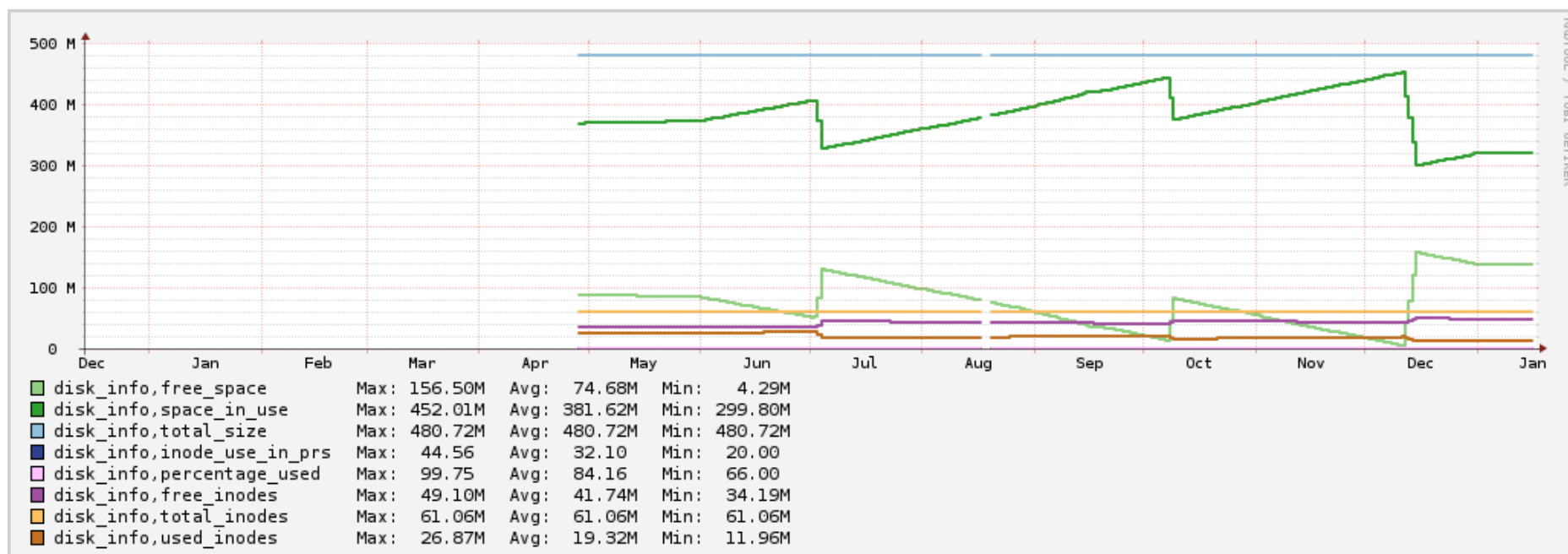
(mig langar að selja ykkur hugtakið eftirlitskerfi)

- (Smá) Saga:
 - Veðurstofa Íslands – alls konar eftirlit.
Eftirlitskerfi Veðurstofu (net, tölvu, kerfisreksturs) er Icinga2
- NetSaint (Ethan Galstad) -> Nagios.
 - Mars/apríl 2009 Nagios forkað í Icinga(1).
 - (allt config úr Nagios gekk óbreytt inn í Icinga1....)
 - Icinga1 -> Icinga2
 - (Endurskrift, nánast frá grunni)

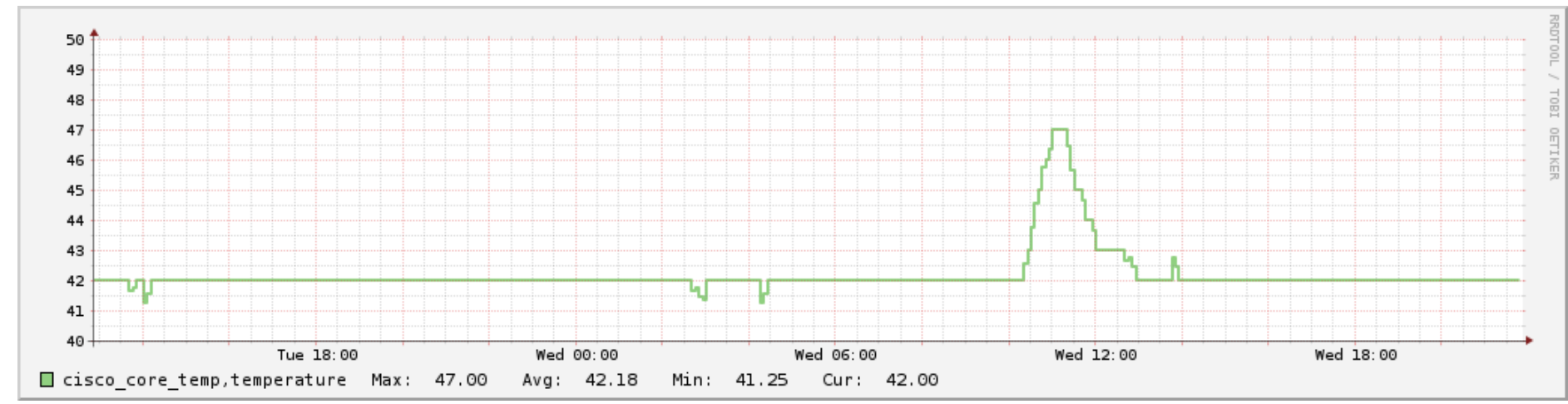
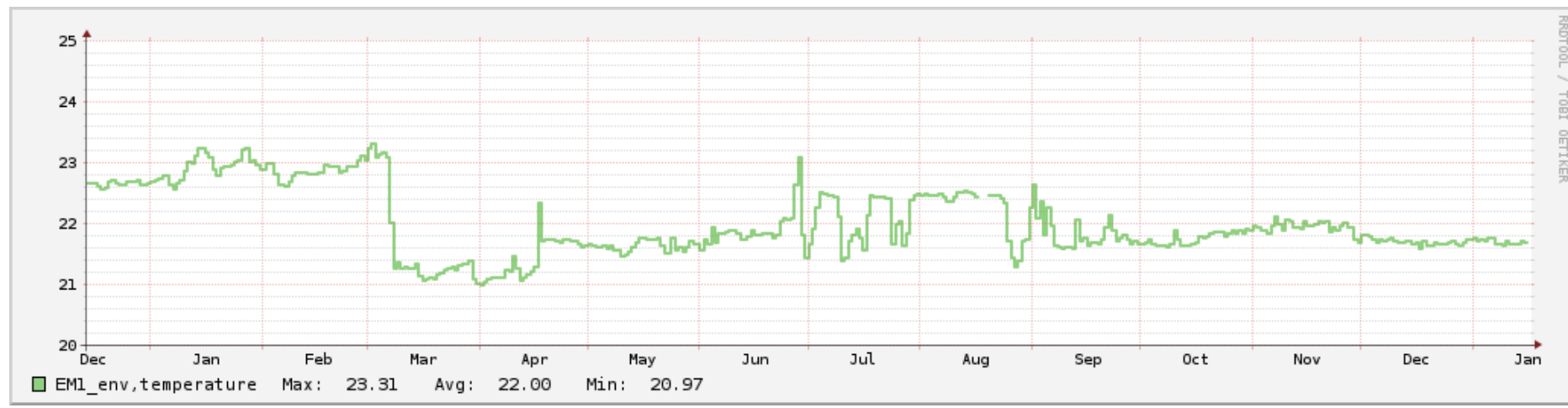
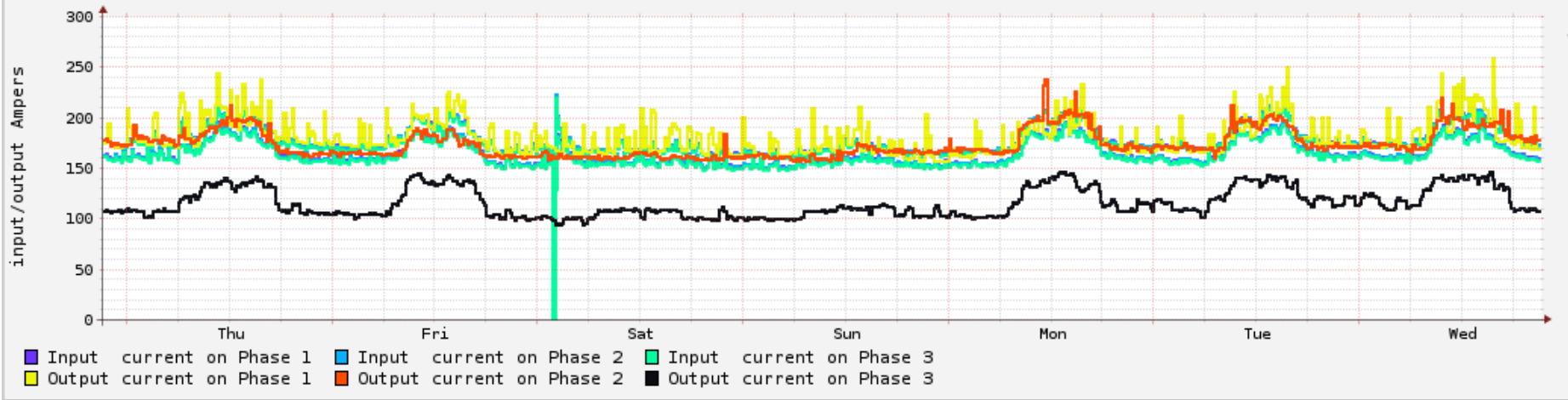
- Hvað er net- og tölvueftirlit?
 - Fylgjast með tölvum, netbúnaði, prenturum, vara-
aflgjöfum, umhverfispáttum, hiti, raki, rafmagn,
myndavélar, og svo framvegis.
 - Mæla afköst (útbúa gröf), svo sem:
 - diskanotkun, álag, fjöldi notenda, staða á swap, fjöldi
fyrirspurna í SQL grunn, fjöldi blaðsíðna sem eru
prentaðar út, gagnamagn notenda (fyrir kvóta), volt út úr
UPS, fjöldi tölvupóstskeyta í gegnum póstkerfi

- Í grunninn: Eftirlit á því sem þarf að ... eh... fylgjast með! (netbúnaður, mælakerfi, tölvur, veður, skjálftar, flóð, ...)
- Markmið:
 - Geta brugðist við atburðum, helst áður en aðrir verða varir við
 - Fá tölur til að meta þörf og plana fyrir framtíðina.
 - Vera vissir um að kerfið sé að virka rétt
 - Álagsmælingar / stöðumælingar

Meta stækkun diska...



Graph done at: Wed Jan 16 21:08:06 2013 for 172.16.1.32.rrd



Nokkur mæliborð (dashboard)

The screenshot displays the NagVis web interface. The browser address bar shows the URL: <https://cinga2.veduris.nagvis/frontend/nagvis-js/index.php?mod=Map&act=view&show=B7-DMI>. The interface includes a sidebar on the left with a navigation menu under "Overview" and "Maps". The main area shows a floor plan of a building with several rooms labeled in Icelandic: Bókasafn, Forgarður, CH-1, Hitastig, Rakastig, CH-3, Skjalageymsla, Hitastig Raki, Umhverfissvöktun, and Bústaðavegur 7. The floor plan is overlaid with green checkmarks and small icons, indicating the status of various monitoring points. A detailed status window is open on the right side of the floor plan, displaying a list of IP addresses and their corresponding status (e.g., OK, DOWN). Below this window, there are three buttons labeled "Dæmi 1", "Dæmi 2", and "Dæmi 3", each with a green checkmark icon. The bottom of the page is a solid red bar.

Byrd af neturli B9
þús ára af sögu...
(C) Einar Indriðason
2017-01-23T12:00

172.16.1.15
Drökalar

Care-1 net v edur is
(172.16.1.253)
B7 - Kjallari

172.16.1.25
172.16.1.27
3. hæð a B9

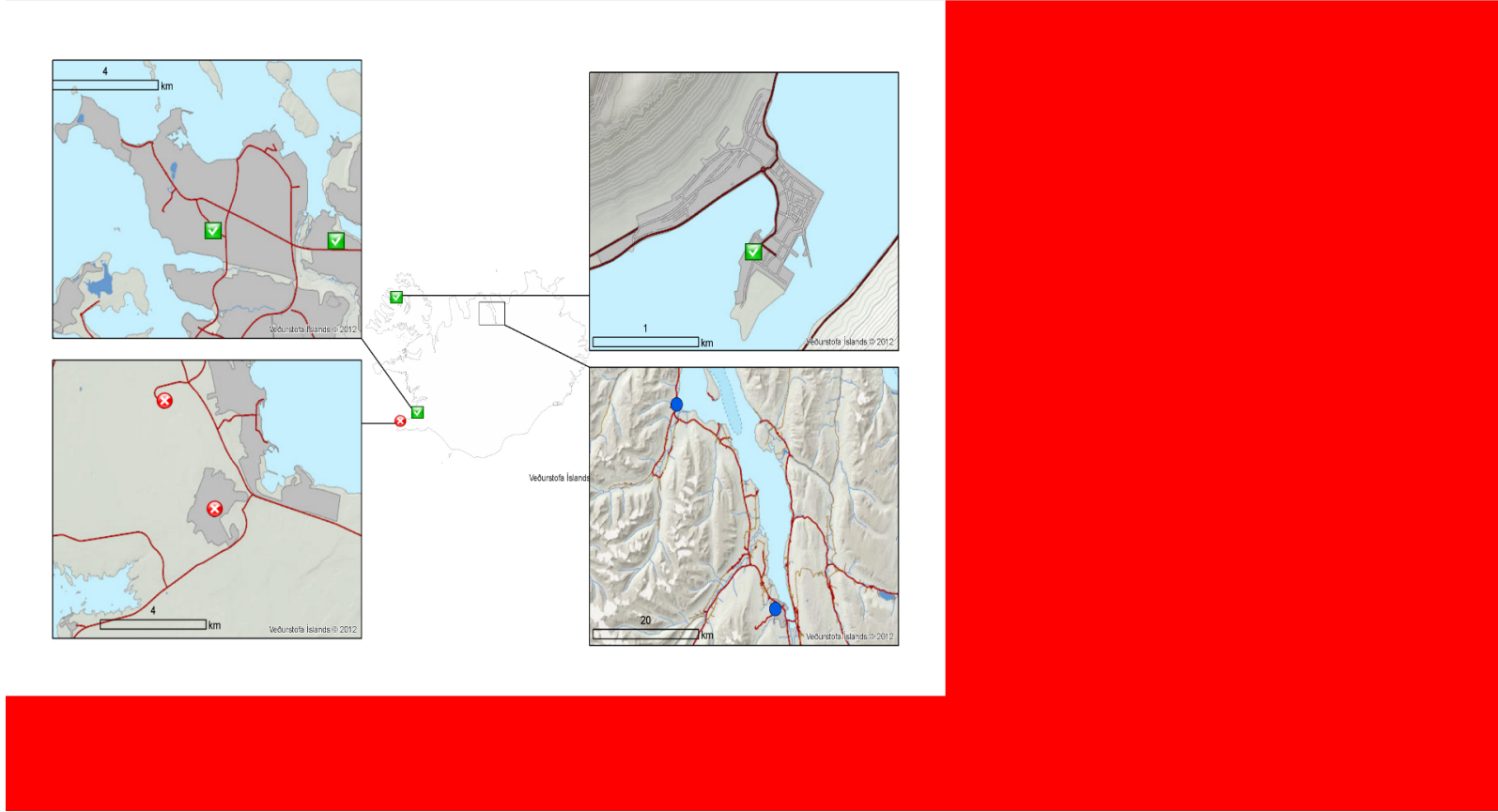
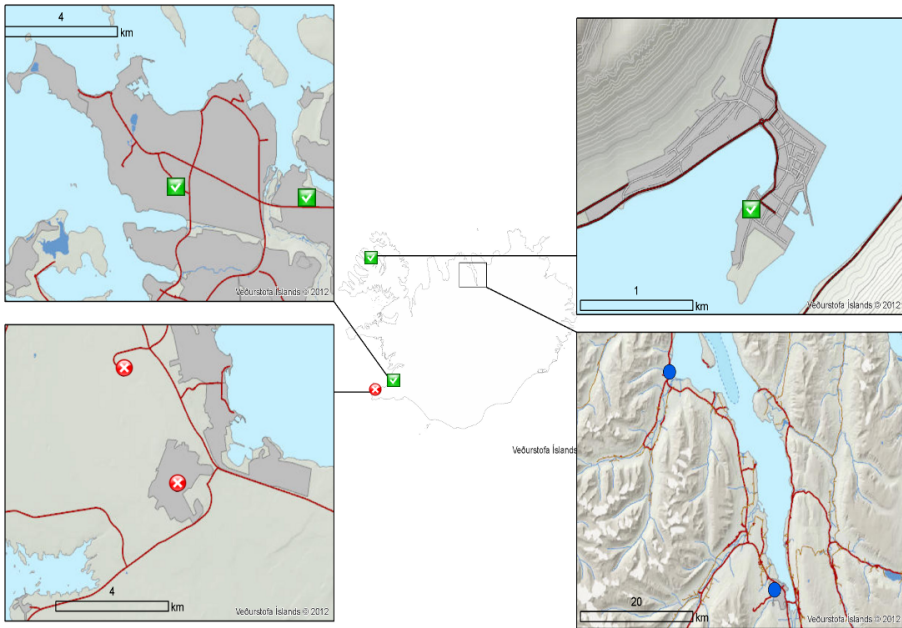
172.16.1.22
172.16.1.23
172.16.1.17
172.16.1.14
1. hæð a B9

172.16.1.26
172.16.1.28
172.16.1.19
172.16.1.44
2. hæð a B9

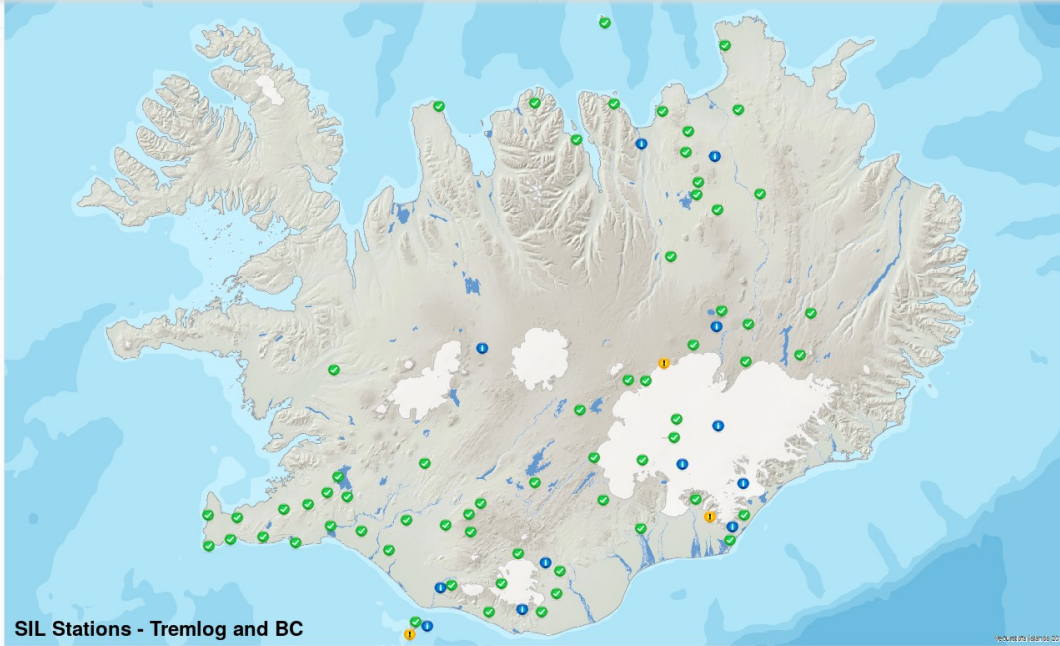
modem hila
eth braytur
Dunafagn
(10.170.100.11)
172.16.1.8
Rexra 5200
(10.25.0.1)
rummet arth v edur is
(10.25.0.2)
Turnva a B9

ms2 v edur is (130.208.87.152) dncp-1 apnu v edur is (10.4.0.011)
Sinnættis grafi
APN-ge2 apnu v edur is (10.4.0.3)
ASA standby (172.31.254.5)
DMZ-1 (172.17.1.6)
Care-2 (172.16.1.253)
Yesskiapur i kjallara B9
172.16.1.10
172.16.1.41
Svart skapur i kjallara B9
Ezabill
MS01 v edur is (130.208.87.13)
DMZ-0 (45.00x.2) (172.17.1.8)
Tape library (130.208.87.14)
skugga v edur is (130.208.87.15)
HP diskba (eyrt af skugga v edur is)
Outur-akki (F-001)
testvm (10.170.20.21)
Svart skapur i kjallara B9
Ezabill
UPS i kjallara B9 (172.16.1.33)

Kjallari B9



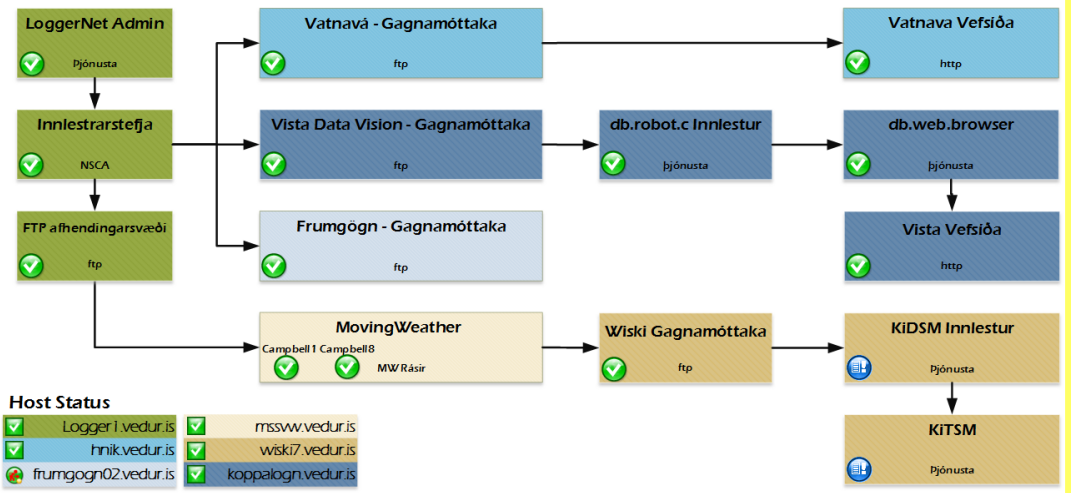
- Overview
- Maps
 - B7-DMI
 - bird-view-1
 - distributed_net_watch_VI
 - gatlisi1
 - network-VI-1
 - radar
 - silBcTrem**
 - silBP
 - Umhverfiseftirlit
 - vmFrameldsluferlar
 - vmGagnastraumar
- Rotations



© 2015 Icinga

- Overview
- Maps
 - B7-DMI
 - bird-view-1
 - distributed_net_watch_VI
 - gatlisi1
 - network-VI-1
 - radar
 - silBcTrem
 - silBP
 - Umhverfiseftirlit
 - vmFramleidsluferlar
 - vmGagnastraumar
- Rotations

Service Status



Host Status

✓ Logger1.vedur.is	✓ mssww.vedur.is
✓ hnrik.vedur.is	✓ wiski7.vedur.is
⚠ frumgogn02.vedur.is	✓ koppalogn.vedur.is

Browser address bar: <https://icinga2.veduris/icingaweb2/monitoring/host/services?host=foreman.veduris#1/icingaweb2/monitoring/service/show?host=foreman.veduris>

Host foreman.veduris
since Aug 30 10:17:30.54

10 Services: 10

- OK Check disk(s)
Sep 27 OK - disks/partitions on 10.170.30.54
- OK Checking swap space
11:41 SWAP OK - 100% free (879 MB out of 879 MB)
- OK Check load
Sep 6 OK - load average: 0.37, 0.53, 0.59
- OK Check Memory Usage
Jul 7 OK - Memcheck
- OK Check Network Traffic
Sep 6 OK - received bytes: 295818023, transmitted bytes: 114367175
- OK Check NRPE
May 25 NRPE v2.15
- OK Check Uptime
11:41 check_uptime: OK - 14:40:37 up 3:00, 1 user, load average: 0.51, 0.55, 0.59
- OK NTP check at Veduris
Jul 23 NTP OK: Offset -0.001218438148 secs
- OK Ping
2d 16h PING OK - Packet loss = 0%, RTA = 0.55 ms
- OK ssh
May 25 SSH OK - openssh_6.7p1 Debian-S+debu7 (protocol 2.0)

Service foreman.veduris
since Aug 30 10:17:30.54

OK Service: Check disk(s)
since Sep 27

[Check now](#) [Comment](#) [Notification](#) [Downtime](#)

Plugin Output

```
OK - disks/partitions on 10.170.30.54
```

Performance Graph

Minutes Hours Days Months Years Special

foreman.veduris - Disk usage

min	max	avg	current
91%	95%	92%	93%

foreman.veduris - Disk Usage

min	max	avg
20.1 GB	20.1 GB	20.1 GB

foreman.veduris - Disk inodes

min	max	avg	current
1.06 Mil	1.09 Mil	1.08 Mil	1.08 M

foreman.veduris - Disk I/O requests

Örfáir punktar...


- Aðgengi að eftirlitskerfinu **ætti** að vera í gegnum vafra, til að tryggja að allir geti skoðað það, óháð stýrikerfi.
- Það væri þægilegt ef hægt væri að nota textavafra fyrir þá sem eru úti í mörkinni, með litla fartölvu og hægvirkan síma.
- Myndræn framsetning skiptir **gríðarlegu** máli!

- Oft (en ekki alltaf) er eftirlit brotið upp:
 - stakar vélar, netbúnaður, græjur
 - Þjónustur keyrandi á viðkomandi vél
- Þetta getur svo verið grúppað saman, eftir virkni, t.d. allir vefþjónar saman, allir póstþjónar saman



- Oft þarf að fara nokkur stig í eftirlitinu:
 - Er vélin lifandi?
 - Er nóg pláss á diskum?
 - Er vefþjónninn keyrandi?
 - Hver er staðan á framleiðslufæribandinu?
 - Virkar að ná í aðeins flóknari vefsíðu, þar sem rætt er við gagnagrunn með mjög einfalda spurningu? (t.d. spyrja grunninn hvað klukkan sé?)

- Ná í vefsíðu sem sendir inn flóknari fyrirspurn í gagnagrunninn, jafnvel í gegnum einhverja próftöflu, uppfæra, og sjá hvort virki
- Tala beint við gagnagrunninn og forvitnast um fjölda lása, fjölda notenda, fjölda tenginga, hugsanlega telja einhver gildi úr einhverri töflu
- Og þetta var bara til að prófa einfaldan vefþjón með tengingu við gagnagrunn.

Dashboard - upplýsingaskjárninn sjálfur

22 UP 0 / 0 / 8 DOWN 0 / 0 / 0 UNREACHABLE 0 / 0 PENDING 8 / 30 TOTAL
36 OK 0 / 0 / 0 WARNING 0 / 0 / 0 CRITICAL 0 / 0 / 0 UNKNOWN 0 / 0 PENDING 9 / 38 / 45 TOTAL

30 / 0 0.00 / 10.01 / 2.693 s 0.03 / 0.24 / 0.141 s
44 / 1 0.00 / 10.02 / 1.735 s 0.01 / 4.19 / 0.580 s

General

- Home
- Documentation  
- Show Host:

Status

- Tactical Overview
- Host Detail
- Service Detail
- Hostgroup Overview
- Servicegroup Overview
- Status Map

Problems

- Service Problems
- Unhandled Services
- Host Problems
- Unhandled Hosts
- Network Outages

System

- Comments
- Downtime
- Process Info
- Performance Info
- Scheduling Queue

Reporting

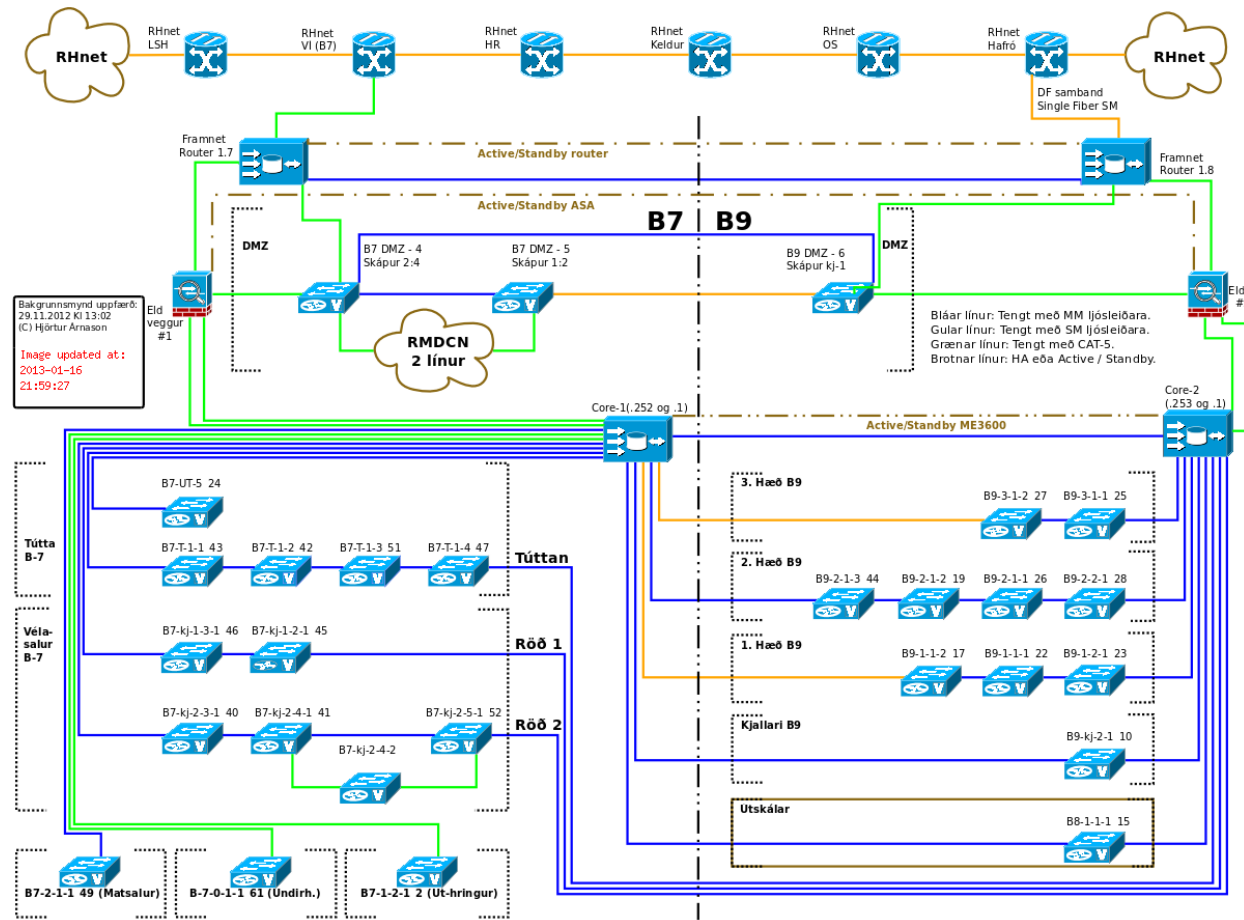
- Trends
- Availability
- Alert Histogram
- Alert History
- Alert Summary
- Notifications
- Event Log

Configuration

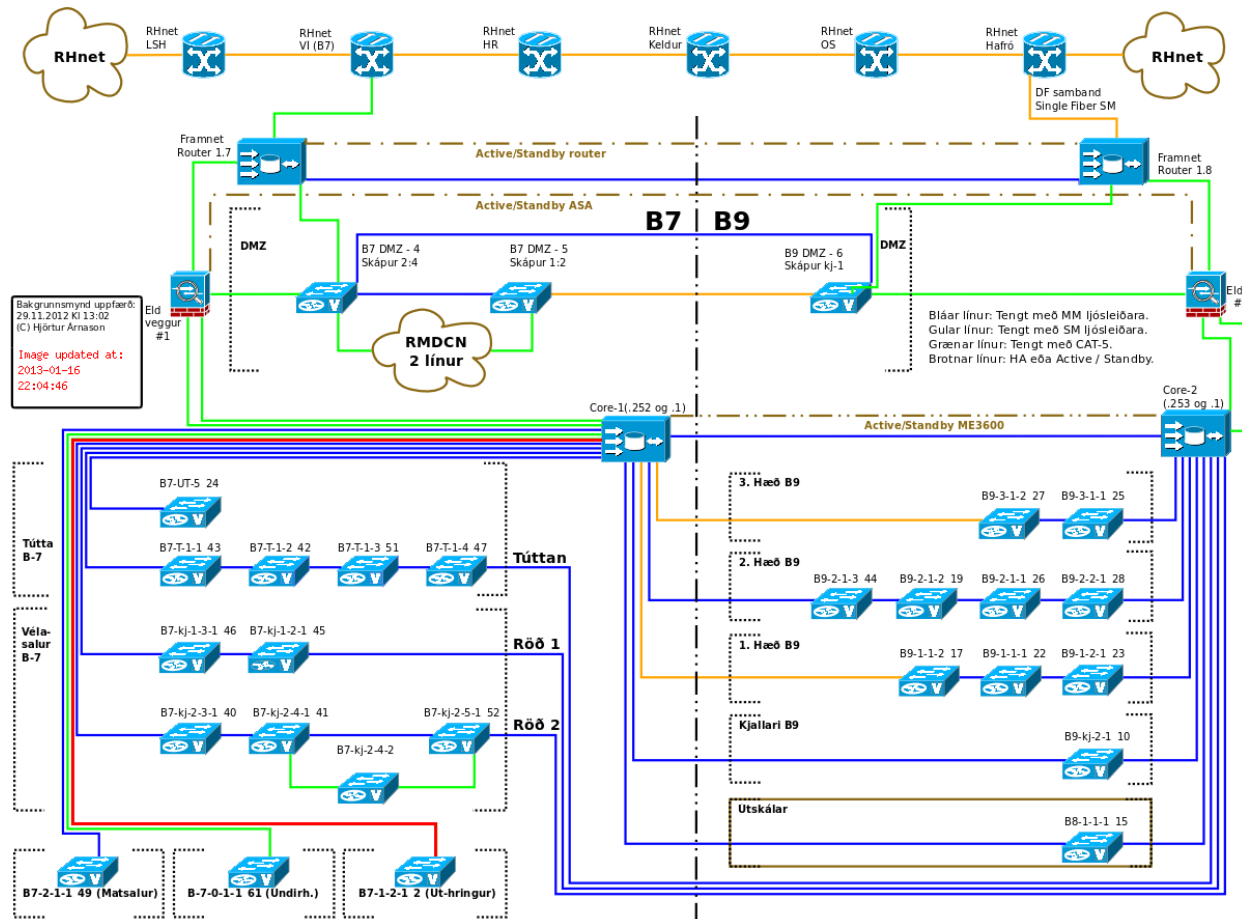
- View Config

Host	Service	Status	Last Update	Next Update	Output	Actions
	PING	OK	05-31-2011 17:18:35	20d 3h 56m 36s	1/5 PING: OK, Packet loss = 25.090: RTA = 4.419	<input type="checkbox"/>
c2-file-1	PING	OK	05-31-2011 17:18:35	242d 23h 4m 23s	1/5 PING: OK, Packet loss = 0: RTA = 0	<input type="checkbox"/>
c2-fw-1	PING	OK	05-31-2011 17:18:35	242d 19h 1m 2s	1/5 PING: OK, Packet loss = 27.189: RTA = 0.044	<input type="checkbox"/>
c2-mail-1	MailQ	OK	05-31-2011 17:18:27	196d 16h 17m 55s	1/5 MailQ: OK, mailq reports 7.113 mails in the queue	<input type="checkbox"/>
	PING	OK	05-31-2011 17:18:35	242d 19h 0m 46s	1/5 PING: OK, Packet loss = 5.173: RTA = 2.586	<input type="checkbox"/>
c2-printserver-1	PING	OK	05-31-2011 17:18:35	242d 23h 6m 23s	1/5 PING: OK, Packet loss = 0: RTA = 1	<input type="checkbox"/>
c2-proxy	PING	OK	05-31-2011 17:21:05	242d 19h 1m 2s	1/5 PING: OK, Packet loss = 11.654: RTA = 0.030	<input type="checkbox"/>
c2-router-1	PING	OK	05-31-2011 17:18:43	242d 23h 4m 23s	1/5 PING: OK, Packet loss = 18.551: RTA = 0.057	<input type="checkbox"/>
c2-switch-1	PING	OK	05-31-2011 17:21:13	242d 23h 6m 23s	1/5 PING: OK, Packet loss = 0: RTA = 11	<input type="checkbox"/>
gmx-pop	POP3	CRITICAL	05-30-2011 22:53:35	271d 22h 11m 18s	4/4 Connection refused	<input type="checkbox"/>
gmx-smtp	SMTP	CRITICAL	05-30-2011 22:53:35	206d 2h 30m 23s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
gmx-www	HTTP	CRITICAL	05-30-2011 22:53:35	8d 2h 10m 48s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
google-www	HTTP	CRITICAL	05-30-2011 22:53:35	8d 2h 9m 26s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
monitor	Current Load	OK	05-18-2011 17:33:59	18d 3h 25m 23s	1/4 OK - load average: 0.01, 0.03, 0.00	<input type="checkbox"/>
	Current Users	OK	05-18-2011 17:33:59	243d 0h 12m 41s	1/4 USERS OK - 0 users currently logged in	<input type="checkbox"/>
	PING	OK	05-18-2011 17:33:59	220d 17h 13m 0s	1/4 PING OK - Packet loss = 0%, RTA = 0.00 ms	<input type="checkbox"/>
	Root Partition	OK	05-18-2011 17:33:59	16d 17h 25m 48s	1/4 DISK OK - free space: / 4611 MB (48% inode=79%):	<input type="checkbox"/>
	Total Processes	OK	05-18-2011 17:33:59	242d 22h 48m 12s	1/4 PROCS OK: 22 processes with STATE = RSZDT	<input type="checkbox"/>
web_de-pop	POP3	CRITICAL	05-30-2011 22:53:35	8d 2h 10m 23s	4/4 Connection refused	<input type="checkbox"/>
web_de-smtp	SMTP	CRITICAL	05-30-2011 22:53:39	8d 2h 12m 45s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
web_de-www	HTTP	CRITICAL	05-30-2011 22:53:35	8d 2h 10m 15s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
yahoo-smtp	SMTP	CRITICAL	05-30-2011 22:53:35	8d 2h 12m 37s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>
yahoo-www	HTTP	CRITICAL	05-30-2011 22:53:35	8d 2h 10m 7s	4/4 CRITICAL - Socket timeout after 10 seconds	<input type="checkbox"/>

Fylgjast með netbúnaði, nettengingum, snúrunum....

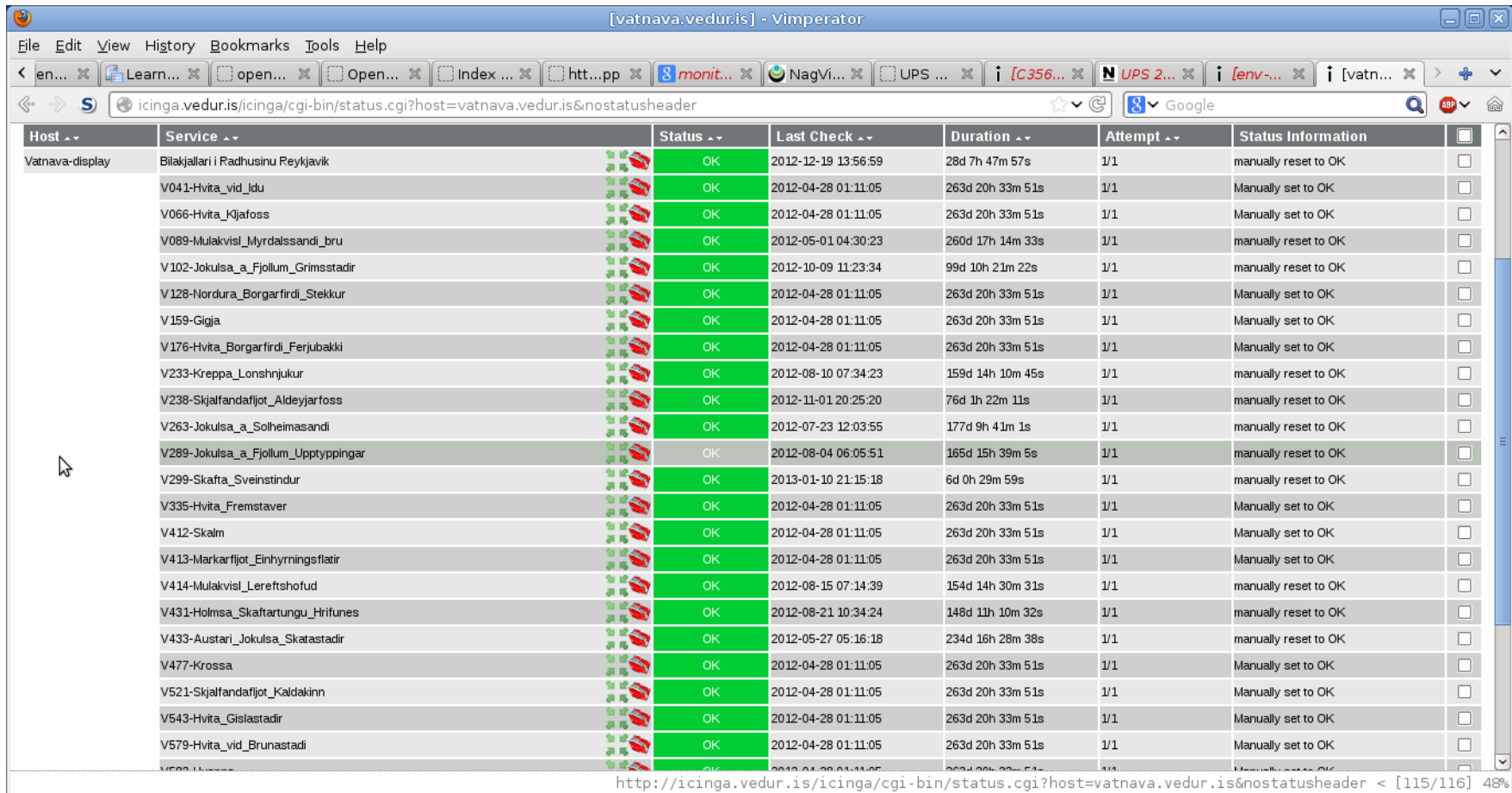


Úbs! Eitthvað er að!



Bakgrunnsmynd uppfærð:
29.11.2012 kl 13:02
(C) Hjörtur Arnason
Image updated at:
2013-01-16
22:04:46

Dæmi: Vatnamælar tengdir við eftirlitskerfi Veðurstofunnar



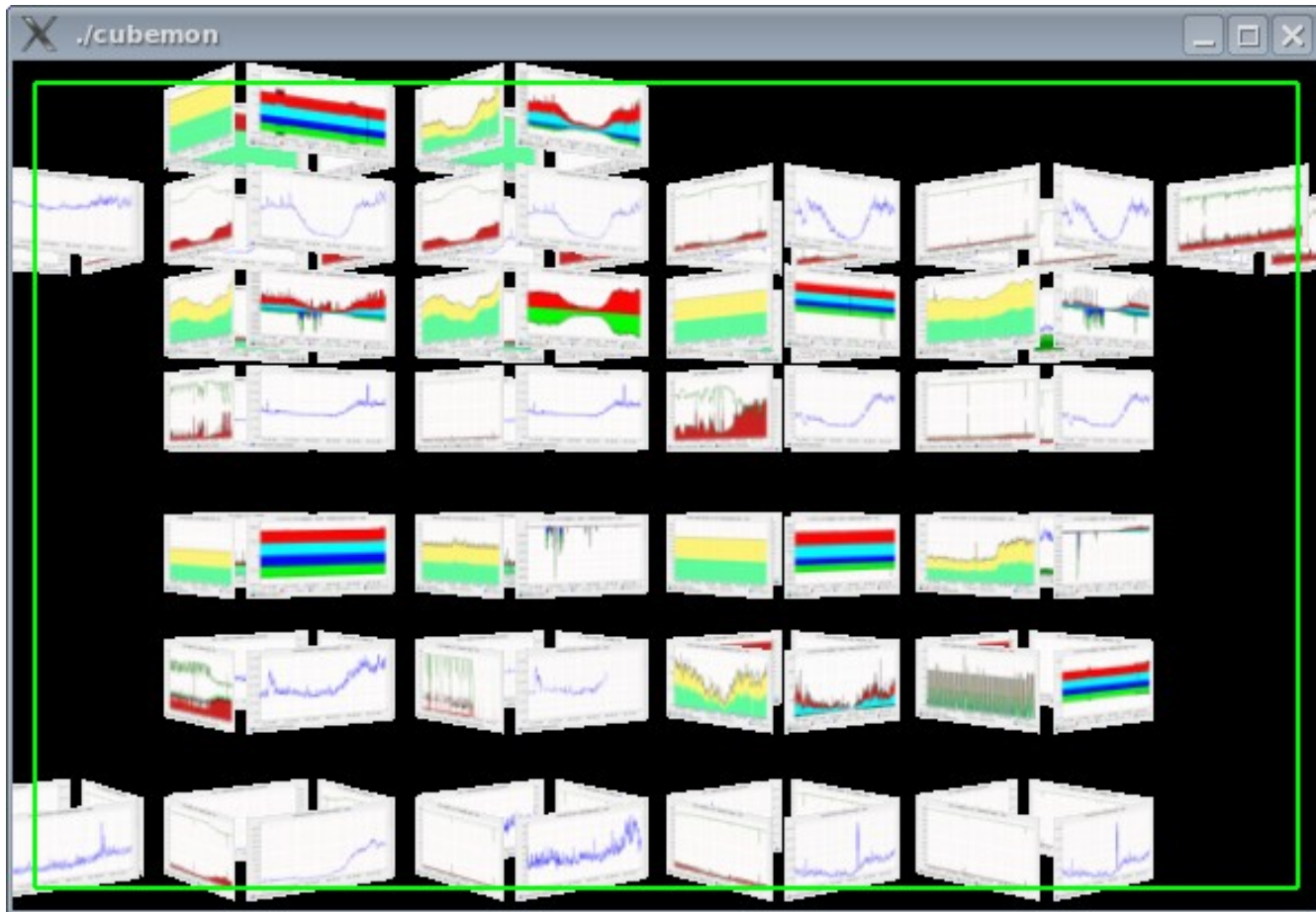
The screenshot shows a web browser window titled "[vatnava.vedur.is] - Vimperator". The address bar contains the URL "icinga.vedur.is/icinga/cgi-bin/status.cgi?host=vatnava.vedur.is&nostatusheader". The main content is a table with the following columns: Host, Service, Status, Last Check, Duration, Attempt, and Status Information. The table lists various services, all of which are in an "OK" status. The status information for each service includes details like "manually reset to OK" or "Manually set to OK".

Host	Service	Status	Last Check	Duration	Attempt	Status Information
Vatnava-display	Bilakjallari í Radhusinu Reykjavík	OK	2012-12-19 13:56:59	28d 7h 47m 57s	1/1	manually reset to OK
	V041-Hvita_vid_idu	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V066-Hvita_Kjafoss	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V089-Mulakvisl_Myrdalssandi_bru	OK	2012-05-01 04:30:23	260d 17h 14m 33s	1/1	manually reset to OK
	V102-Jokulsa_a_Fjollum_Grimsstadir	OK	2012-10-09 11:23:34	99d 10h 21m 22s	1/1	manually reset to OK
	V128-Nordura_Borgarfirdi_Stekkur	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V159-Gigja	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V176-Hvita_Borgarfirdi_Ferjubakki	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V233-Kreppa_Lonshnjukur	OK	2012-08-10 07:34:23	159d 14h 10m 45s	1/1	manually reset to OK
	V238-Skjalfandafjot_Aldeyjarfoss	OK	2012-11-01 20:25:20	76d 1h 22m 11s	1/1	manually reset to OK
	V263-Jokulsa_a_Solheimasandi	OK	2012-07-23 12:03:55	177d 9h 41m 1s	1/1	manually reset to OK
	V289-Jokulsa_a_Fjollum_Upptyppingar	OK	2012-08-04 06:05:51	165d 15h 39m 5s	1/1	manually reset to OK
	V299-Skafta_Sveinstundur	OK	2013-01-10 21:15:18	6d 0h 29m 59s	1/1	manually reset to OK
	V335-Hvita_Fremstaver	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V412-Skalm	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V413-Markarfljot_Einhyrningstadir	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V414-Mulakvisl_Lereftshofud	OK	2012-08-15 07:14:39	154d 14h 30m 31s	1/1	manually reset to OK
	V431-Holmsa_Skaftartungu_Hrifunes	OK	2012-08-21 10:34:24	148d 11h 10m 32s	1/1	manually reset to OK
	V433-Austari_Jokulsa_Skatastadir	OK	2012-05-27 05:16:18	234d 16h 28m 38s	1/1	manually reset to OK
	V477-Krossa	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V521-Skjalfandafjot_Kaldakinn	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V543-Hvita_Gislastadir	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK
	V579-Hvita_vid_Brunastadi	OK	2012-04-28 01:11:05	263d 20h 33m 51s	1/1	Manually set to OK

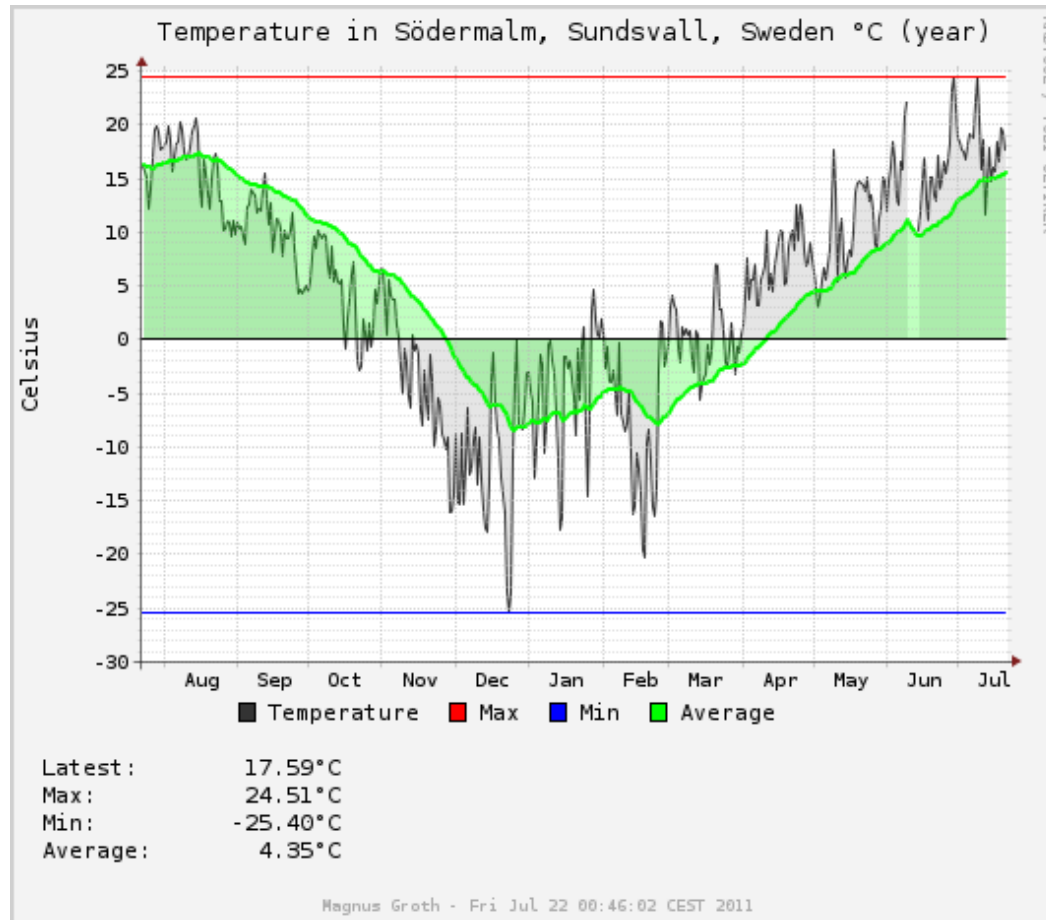
Ansi samþjappaðar upplýsingar hér.....



Samþjappaðar upplýsingar #2



Veðrið, er það ekki? :-)



- Leitarorð/stykkorð:
 - Monitoring systems
 - Computer monitoring
 - Network monitoring
 - nagios
 - nagvis
 - icinga
 - rrdtools
 - mrtg
 - zenoss

- opennms
- zymon
- weathermap
- dia / visio
- SNMP
- web-crawling

Jæja, (fleiri) spurningar?